

Physiology.—The Montyon prize in experimental physiology is divided between Maurice Nicloux and Denis Brocc-Rousseu, the former for his work on the physiological saponification of fatty substances, and the latter for his researches on the alterations of seeds, cereals, and forage. H. Bierry receives the Philipeaux prize, for his studies in cytotoxines; Gaston Seillière the Pourat prize, for his memoir on the utilisation of the pentosans by the animal organism; M. Laulanié the La Caze prize, for the whole of his work in the field of general physiology, the Lallemand prize being divided between E. Régis and Étienne Rabaud.

Statistics.—A memoir on statistical methods and their applications, by Lucien March, is accorded the Montyon prize in statistics. J. A. Fleury receives a very honourable mention for his memoir on the statistics of the city of Rouen, and Dr. Conor an honourable mention for his memoir on hysteria in the army.

History of Science.—Prizes are awarded to Gino Loria and F. Brunet, F. de Mély being accorded a very honourable mention.

General Prizes.—Adolf von Baeyer receives the Lavoisier medal; MM. Blaise, Delépine and Hamonet, Berthelot medals; Charles Frémont, the Trémont prize; J. H. Fabre, the Gegner prize; Mmes. Beclard, Cosco and Ruck, the Lannelongue prize; Charles Nordmann and Jean Brunhes, the Wilde prize; MM. Gonnessiat and de Seguiet, the Saintour prize; Pierre Duhem, the Petit D'Ormy prize (mathematical sciences); J. Künckel d'Herculais, the Petit D'Ormy prize (natural sciences); A. Cotton, the Pierson-Perrin prize; Léon Daum, the prize founded by Mme. la Marquise de Laplace; and Léon Daum, Georges Jean Painvin, Charles Marie Joseph Cambournac, and Louis Eugène Galatoire Malégarie, the prize founded by Félix Rivot.

The Leconte prize is not awarded this year.

THE JOURNAL OF THE ROYAL ANTHROPOLOGICAL INSTITUTE.

THE new volume of the Journal of the Royal Anthropological Institute is dedicated, on the occasion of his seventy-fifth birthday, to Prof. E. B. Tylor, of whom a fine portrait forms the frontispiece. The dedication dwells on his classical contributions to the science of anthropology—his "Researches into the Early History of Mankind" and "Primitive Culture"—works which enjoy the almost unique distinction of never having been superseded by the studies of later writers; on his career as professor of anthropology at Oxford, where, as the result of his teaching and personal initiative, a diploma course in the science has been established; and on the generous encouragement bestowed by him on the students of a younger generation. This compliment to a scholar who stands in the foremost rank is graceful and well deserved.

The president, Prof. Gowland, in his annual address continues his studies of burial mounds in Japan which were begun by his well-known paper contributed to vol. IV. of "Archæologia." Here he deals with the remarkable structures which cover the remains of the early emperors. Some of these are of enormous extent; one when first erected must have been not less than 1000 feet long and 600 feet broad, while in spite of denudation its summit now rises to the height of 84 feet. It seems certain that several of these mounds are as early as the first or second century of our era, and their construction continued for some five or six centuries after that date. It ceased with the establishment of Buddhism, when the custom of inhumation was replaced by cremation. The examples of metal work found in these monuments—iron armour, swords, horse-trappings of iron covered with thin gilt copper foil—illustrate the national skill in metallurgy in those early times. Terra-cotta figurines mark the transition from the custom of burying attendants with the dead sovereign, a reform which the "Nihongi" Chronicle attributes to the Emperor Suinin, who reigned at the beginning of the Christian era. At many of these monuments the Japanese, ardent worshippers of ancestors, still perform annual rites, and the mounds are protected from desecration.

The most important contribution to physical anthro-

pology is the account, by Prof. Cunningham, of perhaps the most remarkable head of one of the Australian aborigines which has ever reached this country. It is that of a man who died in 1905 in a lunatic asylum, and it was most skilfully prepared by Dr. Ramsay Smith by means of injections of formalin. This head is distinguished by the great prominence of the supraorbital regions of the forehead, which is receding and sloping, by the width of the zygomatic region, and by the retreating chin and almost complete absence of a mental prominence. The type does not, as might have been expected from the reported cause of death—organic disease of the brain—seem to be abnormal.

Mr. H. Balfour contributes a good museum article on what he terms the friction drum, a curious musical instrument consisting of a drum with a single membrane, to the centre of which is attached a string, horsehair, or short stick, which on being rubbed with the moistened or rosined forefinger and thumb creates rapid vibrations communicated to the membrane. The instrument appears in Europe, North and South America, Africa, Japan, and India. It seems impossible to discover the original centre of dispersion; in fact, there appears no reason why it should not have been independently discovered in Africa or India, where it appears earlier than in other regions.

Archæology is represented by an account, by Canon Greenwell, of a remarkable find by Major Sykes of bronze weapons, implements, and vessels at Khinámán, in south-east Persia. "It is impossible," he writes, "to overestimate the interest and value of this discovery. This arises not only from the nature of the articles themselves, but from the light it throws upon the early metallic stage of cultivation in that country, about which our information is very scanty." The axes are the most important and interesting. They could never have been used in war or for any other useful purpose, but were representative weapons made to be buried with the dead man in place of those which he used in life, or more probably were employed in processional rites, to be carried as a mark of dignity before a personage of rank. In the ornamentation, as in the case of two similar weapons previously discovered within the same Asian area, the lion appears as a prominent feature of the design.

EXPERIMENTS ON WIND-PRESSURE.

FURTHER experiments on wind-pressure were described by Dr. T. E. Stanton before the Institution of Civil Engineers on December 3. The first part of this research, of which the results were communicated to the same institution in December, 1903, was the investigation of the resultant pressure and distribution of pressure on flat plates normal to and inclined to the direction of a uniform current of air. The value of the constant K in the pressure velocity relation $P=KV^2$ was found to be 0.0027, a result somewhat smaller than those found by Dines, Frowde, and Langley. On the completion of this part of the work it was decided to make observations on flat surfaces of areas ranging up to 100 square feet when exposed to the wind, since general experience tended to show that in actual winds the velocity of which was not uniform over time or space, the mean pressure per square foot on a large surface was considerably less than that on a small one. For the purpose of the work a steel windmill tower was erected in the grounds of the National Physical Laboratory at Teddington. The experimental boards and models of structures were attached to a light framework carried by the cap of the tower, the height of the centre of the boards from the ground being 50 feet.

The results of observations on three pressure-boards, one 5 feet by 5 feet, one 5 feet by 10 feet, and one 10 feet by 10 feet, gave practically identical values of the constant in the pressure-velocity relation. In units of pounds per square foot and miles per hour, the mean value of this constant for the three boards was 0.0032. Further observations on the intensity of the pressure at the front and back of the boards appeared to show that the cause of the higher value of the constant compared with that obtained in the case of the small plates of the earlier experiments was the relatively greater intensity of the negative pressure at the

back of the boards compared to that at the back of the small plates. Experiments were also made on a model of a braced girder 29 feet long by 3 feet 7 inches deep, and on a roof model the sides of which were 8 feet by 7 feet. The ratio of the resistance per unit of area of the model girder to that of a square board in the wind was found to be precisely the same as the ratio of the resistance per unit of area of a small model of the girder made to a linear scale of 1 in 42 to a square plate in the experimental channel and uniform current used in the previous experiments. The resultant pressures on the roof were obtained, for both windward and leeward sides, at angles of 30, 45, and 60 degrees inclination to the horizontal, and indicated the considerable suction effects on the leeward side of a roof when the pressure inside the building is augmented from the windward side by open doors or windows. The results lead to the conclusion that the resistance of a complicated structure in the wind can be accurately predicted from a determination of the resistance of a small model of the structure in an experimental channel.

UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

CAMBRIDGE.—Sir James Dewar has nominated Mr. H. O. Jones, of Clare College, as deputy for the Jacksonian professor of mental philosophy during the Lent term 1908. This nomination has received the consent of the Vice-Chancellor and the Sex Viri.

The sites syndicate recommends that a site on the Downing ground 40 feet wide, situate to the south of the botanical laboratory and parallel to it, be assigned for a building in connection with the Department of Agriculture.

Mr. W. Bateson, F.R.S., has been appointed reader in zoology.

Dr. Baker has been appointed chairman of the examiners for the mathematical tripos, part ii., 1908.

Prof. Nuttall has appointed F. P. Jepson, Pembroke College, to the studentship in medical entomology in place of A. H. Lees, who has resigned the studentship.

The board of agricultural studies is of opinion that the subjects which come under its cognisance are now too wide and too complex to be entrusted to a single professor. The appointment of Mr. T. B. Wood, of Gonville and Caius College, to the Drapers' professorship of agriculture has adequately provided for the teaching of agricultural chemistry, but the board is of opinion that it is urgently necessary that a professor in agricultural botany should be appointed without delay. This proposal has been brought within the range of possibility by the munificence of the Drapers' Company, which has offered a further grant of 200*l.* a year towards the stipend of a professor of agricultural botany. The general board has now put forward a report in which it recommends the establishment of such a professorship. This report will be discussed at an early date next term. The teaching of practical agriculture is entrusted to Mr. K. J. Mackenzie, late of the South-Eastern Agricultural College, Wye.

LONDON.—The committee of University College will shortly proceed to appoint a Derby scholar in zoology. The value of the scholarship is 60*l.* per annum, the scholarship being tenable for two years. An examination for the award of the scholarship will be held at University College on December 18. Full particulars can be obtained on application to the secretary, University College, Gower Street, W.C.

MANCHESTER.—The University will eventually benefit under the will of the late Prof. Thomas Barker, who from 1865–1885 was professor of mathematics at Owens College. The legacy, which it is estimated will amount to about 36,000*l.*, is to found a professorship of cryptogamic botany, and to establish scholarships for the assistance of students, especially those of slender means, in the departments of botany and mathematics.

OXFORD.—A portrait of Dr. A. J. Evans, F.R.S., the keeper of the Ashmolean Museum, painted by Sir William B. Richmond, was presented to the University on Saturday, December 7, in the presence of a large and dis-

tinguished company. The presentation was made on behalf of the subscribers by the principal of Brasenose, and the Vice-Chancellor accepted the portrait for the University.

MR. HALDANE, M.P., will, on Saturday, December 14, unveil the statue of the King, to be placed over the central entrance of the new buildings of University College School, Hampstead.

THE Melbourne correspondent of the *Daily Chronicle* reports that Mr. T. W. Stanford, brother of the founder of Stanford University, San Francisco, intends to leave by his will 50,000*l.* to found eight annual scholarships at Stanford University for young Australians. All candidates must pledge themselves to return to Australia and use the knowledge gained at the University in developing their native country.

SPEAKING at the Derby Municipal Technical College on December 5, Mr. Victor Cavendish, M.P., said he wished they could send forth from that gathering a message to those engaged in educational controversies that would result in placing education out of the range of controversy. He believed that money spent in extending the operations of institutions of that character was money well spent, and money from which, at no distant date, a most adequate and healthy return would be seen. Another subject was as to what extent we could improve our industrial and commercial position in the world. Upon such a question as foreign competition he felt that, however much they might differ on certain points, at any rate on the question of education they could unite in doing something for the future of the country by seeing that the youth of the nation had the very best technical education that could be given. Any money spent on such objects ought to receive the greatest support and consideration from all parties.

DURING the course of last week the Society of Merchant Venturers concluded the final arrangements for the reconstruction of the main building of their technical college in Bristol, and the work will now proceed with all possible speed. The society has devoted a large sum for additions to and improvements in the equipment of the departments of engineering, chemistry, and applied physics. In order to benefit by the most recent experience gained elsewhere, the principal and other members of the staff have visited some of the best-equipped technical and university colleges in Germany and in the United Kingdom.

To encourage the teaching of facts regarding weather and climate in schools, the council of the Royal Meteorological Society invites elementary teachers and others to send in essays in the form of an original nature-study lesson on weather or climate (not exceeding 1500 words in length), together with a brief synopsis of five other lessons to cover the whole subject of climate and weather. If essays of sufficient merit are received, three prizes will be awarded of 5*l.*, 3*l.*, and 2*l.* respectively. The essays are to be sent in before January 31, 1908, and addressed to Mr. William Marriott, assistant secretary, Royal Meteorological Society, 70 Victoria Street, London, S.W., from whom further information can be obtained.

THE fifth annual prize distribution of the Sir John Cass Technical Institute was held on Tuesday, December 3, when the prizes were distributed and an address given by Dr. R. T. Glazebrook, F.R.S. The chair was taken by Sir Owen Roberts, chairman of Sir John Cass's foundation. Dr. Glazebrook, in reviewing the work of the institute, dwelt upon the importance of the average amount of work done by each student rather than the number of students in attendance as a criterion of the value of the instruction given, and also pointed out the desirability of encouraging students in every possible way to follow grouped courses of study of a continuous character if real advantage is to follow from their labours. Further, it is necessary always to remember that learning and the assimilation of knowledge, admirable though they are in themselves, are not all there is to strive for, but that research or discovery of new laws or of more complete order rests on a higher plane. Dr. Glazebrook then contrasted the lot of the students of the institute with that of men in similar positions a hundred years ago, pointing